

# PATENT ABSTRACTS OF JAPAN

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## (54) ELUORESCENT OPTICAL FIBER THERMOMETER

(57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a fluorescent optical fiber thermometer which is superior in durability and reproducibility when the temp. of an object to be measured such as semiconductor Si wafers, etc., is measured, and allows at measuring of the temp. the working distance between a fluorescent substance and optical fiber to be const., without giving adverse influences on the object and without damaging optical fibers.

**SOLUTION:** The thermometer which measures a fluorescent optical fiber thermometer is a fluorescent light L2 of a fluorescent substance 3 the fluorescent property of which varies depending on the temp., thereby computing the temp. of an object 20 to be measured about the temp. A cap 2 to be contacted to the object 20 in

measuring the temp. is formed from a tubular thermal conductor closed at the top end and filled with the fluorescent substance 3 to form a temp. measuring part 10. An optical fiber 6 is provided separately from the temp. measuring part with leaving specified working distance D between the fluorescent substance 3 of the temp. measuring part 10 and top end of the optical fiber 6.

